Site Fact Sheet
Little Elk Creek
Area-Wide One Cleanup Program Pilot Project
Elkton Farm
Zeitler Road
Elkton, MD 21921

Property Description

The Elkton Farm site is located two miles northwest of Elkton, Maryland near the intersection of Routes 40 and 279.

Property History

Throughout most of its history, the Elkton Farm site has been used as a livestock farm with much of the surrounding fields under cultivation. Triumph Explosives, Incorporated (TEI) purchased the Elkton Farm property in the early 1940s. TEI used an area known as the "Firehole" for the disposal of waste explosives materials generated by the operations at TEI. TEI reportedly collected waste material from the manufacture of explosive ordinance and placed it in drums. This accumulated waste was kept wetted with alcohol or ether to prevent spontaneous combustion, and then carried to a shallow pit off Zeitler Road, spread thinly, and allowed to burn. Plant personnel monitored the burn until the waste explosive was consumed. Photographs in the TEI newsletter from the 1940s show the operation of the Firehole burn pit but the exact location of the pits was unknown.

An underutilized industrial park located along the Little Elk Creek in Cecil County, Maryland has been selected as an Area-Wide Pilot Project under U.S. EPA's One Cleanup Program and Land Revitalization initiatives. The goals of the Little Elk Creek Pilot Project is to address a widespread groundwater contamination problem stemming from multiple industrial sources within a geographic area and support development and reuse needs of the surrounding community.

The current owners, the Herron Family/MARVA Ltd. Partnership, acquired the property in 1948. In the late 1950s and early 1960s, the Thiokol Corporation leased a one acre plot of the property for a rocket motor cleaning and recovery area. In the early 1980s wastes from the Galaxy Chemical plant were disposed and/or stored on the farm. The farm property is currently leased to a commercial farming operation that rotates seasonal crops through the fields.

Environmental Investigations

For investigative purposes, the Elkton Farm property has been divided into four hazardous waste

disposal areas:

UNIT ONE

Unit One comprises two areas of the farm that were used by a property owner for the storage of hazardous waste, including drums of ash produced from the Thiokol area (Unit 3), ordnance debris from the TEI operation and drums of waste from Galaxy Chemical. In the early 1980s, the owner of the farm attempted to dispose of 53 drums of hazardous waste from Galaxy Chemical, a nearby solvent recycler, at Norris Farm Landfill in Baltimore County, Maryland. Norris Farm Landfill refused to accept the waste and Galaxy refused to take the waste back. Consequently, the owner of Elkton Farm stored the drums in the two farm buildings until he reported them to MDE almost ten years later. A Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) removal action was completed at Unit One in 1992, which resulted in the removal of drums containing flammable organic compounds, base neutral compounds, halogenated organic compounds, drums of solids, and 10 tons of contaminated soil.

UNIT TWO

Unit Two is the World War II era waste ordnance combustion pit known as the "Firehole," which was used by TEI during the 1940s. Other that it being identified as located on the Elkton Farm property, the exact location of the firehole was not known.

In May 2002, MDE contracted NAEVA Geophysics, Inc. to conduct a geophysical survey of the suspected area of the Firehole. The survey indicated several distinct anolmalies on the portion of the property east of Laurel Run and south of Zeitler Road. Observations indicate that the Firehole is not one discrete area but rather a series of burn pits located across the property.

In October 2002 and May 2003, MDE performed a site investigation of this property under the PA/SI Cooperative Agreement with EPA. Results of the investigation indicate explosives in surface and subsurface soils, elevated levels of lead, mercury, and PCBs in the Firehole and trichloroethene in the groundwater.

In December 2004 and January 2005, MDE conducted further investigation of this unit by using a remote geoprobe to collect subsurface samples in the suspected burn pits. Results from this sampling event show aluminum, antimony, barium, cadmium, chromium, copper, lead, mercury, and zinc in surface and subsurface soils at levels above background and exceeding MDE cleanup standards. Sampling results also show TNT in surface and subsurface soil samples throughout the site and trichloroethylene in subsurface samples taken from one of the suspected burn pits.

UNIT THREE

Unit 3 is a 1_acre plot of land leased by the Thiokol Corporation in the late 1950s and early 1960. (Unit Three overlays a component of Unit Two.) The abandoned structures for this test area are located on the west side of the property. Thiokol Corporation constructed several small buildings, undefined underground structures, and a network of

steel gantries. The facility was used to combust residual fuel and clean rocket motors for reuse until an explosion led to the site's abandonment.

In May and June of 2003, MDE performed a site investigation of this property under the PA/SI Cooperative Agreement with EPA. Results of the investigation indicate explosive compound in the surface and subsurface soils and perchlorate in the subsurface soils on this site.

In August 2005, ATK, Inc.the successor to the Thiokol Corporation, removed all of the remaining structures on the TMRA.

UNIT FOUR

Unit Four is a 55-acre parcel on the farm that was reportedly impacted by disposal on adjacent lands or used in the past to store or dispose of waste organic solvents. A plume of groundwater contamination had been documented immediately south of Unit 4 in the GE Rail Car property and appeared to be coming from this property.

In June and July of 2003, MDE performed a site investigation of this property under the PA/SI Cooperative Agreement with EPA. Results of the investigation indicate an impact to groundwater in the vicinity of Unit 4; however, it does not appear that the contamination is coming from Unit 4.

Contaminants

Clorinated solvents have been found in groundwater and in subsurface soils; Explosives, perchlorate, aluminum, antimony, barium, cadmium, chromium, copper, lead, mercury, zinc, and PCBs have been detected in onsite surface and subsurface soils.

Cleanup and Next Steps

MDE has requested EPA's assistance in addressing the munitions debris present at Unit 2, the Firehole. EPA completed an EM-61 magnetometer study of the area in April of 2005 and determined that the munitions debris has spread over a 50+ acre area in the field. The US Army Corps of Engineers (USACOE) has prepared a scope of work, funded by EPA, to address the cleanup of the property. Due to DOD's extensive involvement in the operations at TEI, EPA is currently under negotiations with USACOE to perform the cleanup as a potentially responsible party.

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Lead Agency and Contacts

MDE is the lead agency but has requested EPA assistance to perform the removal of the munitions debris at Unit 2, the Firehole.

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